

Requirements of an Automated Liquid Handler for performing serial dilutions, plate filling, and plate to plate (or tube to plate) transfers in 96 well microplates.

1. Must have a 12 channel liquid head for working in 96 well plates.
2. Must be able to perform all protocols in both landscape and portrait positions (by row or by column).
3. Must be able to perform a serial dilution across a 96 well plate in the landscape position in less than 35 seconds (no mixing, no tip change).
4. Must be able to perform a plate-to-plate transfer (mother – daughter plate) replication) in the landscape format in less than 50 seconds (no mixing, no tip change).
5. Width not to exceed 13.5” to conserve lab bench space.
6. Height not to exceed 17” to facilitate use in a biohazard hood.
7. Must include a Two Year warranty on parts.
8. Must be stand alone operation so that no PC is required.
9. Must have a color graphical touch screen display for monitoring operational status at a glance. This allows the researcher the ability to be performing other functions at the same time while in the same general area of the laboratory.

Performance Specifications for Liquid Handler

Pipetting channels	12 way format
Volume range	1ul to 200 ul in 1 ul increments
Precision	@100ul <1% CV @10 ul < 2% CV @5 ul <3% CV
Accuracy	@100 ul < +/- 1.0% @10 ul < +/- 3.0% @5 ul < +/- 3.0%

Throughput

Serial Dilution

50 ul transfer volume.
No mixing, No tip change
Landscape format 25 seconds

Plate to Plate transfer

50 ul transfer volume 1 minute, 25 seconds
No Mixing, With tip change on each row Landscape format

Filling the Plates

100 ul Transfer Volume
No Mixing, No Tip Change
Landscape Format 50 seconds

Plate Formats

96 well standard, shallow, deep well,
Microtube, V, U, and flat bottom

Functions

Serial dilution, reagent addition, mixing, plate replication, sample transfer (plate to plate and within the plate)

Technical Specifications

Dimensions

Height not to exceed approximately 16”
Width not to exceed approx 12 “
Depth not to exceed approximately 28.5”

Weight not to exceed approximately 70 #.

Power requirements

120/220/240 VAC, 47-63 Hz, 2A@120 VAC

Fuse 3A normal blow

Operating Temperature 23 +/- 3 degrees C